

**WHAT IS CLAIMED IS:**

1           1. For use in a telecommunications system having a source base station and a  
2 destination base station where a specified mobile station establishes a connection with  
3 the source base station, a method comprising:

4           initiating at the destination base station a preliminary portion of a handover  
5 sequence for the specified mobile station, the preliminary portion of the handover  
6 sequence including uplink radio synchronization with respect to the specified mobile  
7 station; and then subsequently

8           initiating at the destination base station another portion of a handover sequence  
9 for the specified mobile station.

1           2. For use in a telecommunications system having a source base station and a  
2 destination base station where a specified mobile station establishes a connection with  
3 the source base station, a method comprising:

4           initiating at the destination base station a preliminary portion of a handover  
5 sequence for the specified mobile station; and then subsequently

6           initiating at the destination base station another portion of a handover sequence  
7 for the specified mobile station;

8           the preliminary portion of the handover sequence involving an operation  
9 between the destination base station and the specified mobile station that are more time  
10 critical than operations performed during the another portion of the handover sequence.

1           3. The method of claim 1 or claim 2, further comprising:

2           initiating the preliminary portion of the handover sequence upon receipt of a first  
3 measurement report from the specified mobile station; and

4           initiating the another portion of the handover sequence upon receipt of a second  
5 measurement report from the specified mobile station.

1           4. The method of claim 3, wherein upon receipt of the first measurement report  
2 from the specified mobile station, a control node allocates uplink resources for the  
3 specified mobile station to communicate with the destination base station.

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1        5. The method of claim 3, wherein the first measurement report from the  
2 specified mobile station and the second measurement report from the specified mobile  
3 station include differing values of a signal quality measurement of a pilot signal from  
4 the destination base station as received by the specified mobile station.

1        6. The method of claim 1 or claim 2, wherein the preliminary portion of the  
2 handover sequence comprises one or more of the following:

- 3        (1) sending an uplink setup request message from a control node to the  
4 destination base station;  
5        (2) turning on a receiver at the destination base station to listen to the specified  
6 mobile station;  
7        (3) performing uplink radio synchronization with respect to the specified mobile  
8 station and the destination base station; and,  
9        (4) sending a mobile station detected message from the destination base station  
10 to the control node.

1        7. The method of claim 1 or claim 2, wherein the another portion of the  
2 handover sequence comprises remaining events of a convention handover sequence  
3 which were not included in the preliminary portion of the handover sequence.

1        8. The method of claim 1 or claim 2, wherein the another portion of the  
2 handover sequence comprises one or more of the following:

- 3        (1) sending a downlink setup request message from a control node to the  
4 destination base station;  
5        (2) performing a radio link setup operation at the destination base station for the  
6 specified mobile station;  
7        (3) sending an active set update message from the control node to the specified  
8 mobile station;  
9        (4) establishing a user data transfer connection between the control node and the  
10 destination base station;  
11        (5) transferring user data between the control node and the destination base  
12 station;  
13        (6) turning on a transmitter at the destination base station to transmit to the  
14 specified mobile station;

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- (7) performing a power ramping operation between the destination base station and the specified mobile station;
- (8) performing a downlink synchronization operation between the destination base station and the specified mobile station;
- (9) sending an active set update complete message from the control node to the uplink radio synchronization with respect to the specified mobile station and the destination base station;
- (10) sending a mobile station detected message from the specified mobile station to the destination base station; and
- (11) sending a radio link restore indication message from the destination base station to the control node.

9. A telecommunications system comprising a control node and a destination base station, characterized in that:

the control node initiates at the destination base station a preliminary portion of a handover sequence for the specified mobile station, and then subsequently initiates at the destination base station another portion of the handover sequence for the specified mobile station;

the destination base station, in performing the preliminary portion of the handover sequence, performs uplink radio synchronization with respect to the specified mobile station.

10. A telecommunications system comprising a control node and a destination base station, characterized in that:

the control node initiates at the destination base station a preliminary portion of a handover sequence for the specified mobile station, and then subsequently initiates at the destination base station another portion of the handover sequence for the specified mobile station;

the destination base station, in performing the preliminary portion of the handover sequence, performs operations which are more time critical than operations included in the another portion of the handover sequence.

11. The apparatus of claim 9 or claim 10, wherein the control node initiates the preliminary portion of a handover sequence for the specified mobile station upon receipt of a first measurement report from a specified mobile station; and wherein the

control node initiates the another portion of the handover sequence for the specified mobile station upon receipt of a second measurement report from the specified mobile station.

12. The apparatus of claim 11, wherein upon receipt of the first measurement report from the specified mobile station, a control node allocates uplink resources for the specified mobile station to communicate with the destination base station.

13. The apparatus of claim 11, wherein the first measurement report from the specified mobile station and the second measurement report from the specified mobile station include differing values of a signal quality measurement of a pilot signal from the destination base station as received by the specified mobile station.

14. The apparatus of claim 9 or claim 10, wherein the preliminary portion of the handover sequence comprises one or more of the following:

- (1) receiving at the destination base station an uplink setup request message sent from the control node;
- (2) turning on a receiver at the destination base station to listen to the specified mobile station;
- (3) performing uplink radio synchronization with respect to the specified mobile station and the destination base station; and,
- (4) sending a mobile station detected message from the destination base station to the control node.

15. The apparatus of claim 9 or claim 10, wherein the another portion of the handover sequence comprises remaining events of a convention handover sequence which were not included in the preliminary portion of the handover sequence.

16. The apparatus of claim 9 or claim 10, wherein the another portion of the handover sequence comprises one or more of the following:

- (1) receiving from the destination base station a downlink setup request message sent from a control node;
- (2) performing a radio link setup operation at the destination base station for the specified mobile station;

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- (3) sending an active set update message from the control node to the specified mobile station;
- (4) establishing a user data transfer connection between the control node and the destination base station;
- (5) transferring user data between the control node and the destination base station;
- (6) turning on a transmitter at the destination base station to transmit to the specified mobile station;
- (7) performing a power ramping operation between the destination base station and the specified mobile station;
- (8) performing a downlink synchronization operation between the destination base station and the specified mobile station;
- (9) sending an active set update complete message from the control node to the uplink radio synchronization with respect to the specified mobile station and the destination base station;
- (10) sending a mobile station detected message from the specified mobile station to the destination base station; and
- (11) sending a radio link restore indication message from the destination base station to the control node.

17. The apparatus of claim 9 or claim 10, wherein the control node is a radio network control (RNC) node of a radio access network.